

Attorney Docket No. 59305-8089.US01

AMENDMENTS TO THE CLAIMS

1-6. (Cancelled)

7. (Original) An amplifier circuitry for directly driving stereo headphones, said amplifier circuitry being driven by a single supply voltage VDD, said amplifier circuitry comprising:

a first and a second amplifier, the first amplifier having an output directly coupled to a first headphone and the second amplifier having an output directly coupled to a second headphone, each of the first and second amplifier having a VDD power supply lead connected to a positive voltage supply VDD; and

a charge pump circuitry output connected to a -VDD supply voltage of the first and second amplifier, wherein said charge pump circuitry output provides a voltage substantially equal in magnitude to the negative value of the VDD supply, said charge pump further having a power supply lead connected to the VDD supply voltage.

8-12. (Cancelled)

13. (Previously Presented) A direct drive charge pump enabled stereo headphone system comprising the following formed on a single integrated circuit:

a single power input for providing, internal to said integrated circuit, a VDD supply voltage originating external to said integrated circuit;

a charge pump coupled to said single power input and operable to provide, internal to said integrated circuit, a voltage substantially equal in magnitude to the negative value of said external VDD supply;

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a first headphone amplifier power by both said external VDD supply and said voltage substantially equal in magnitude to the negative value of said external VDD supply, said first headphone amplifier having a first audio input driven by a first audio signal provided external to said integrated circuit, and a first audio output suitable for directly driving a stereo headphone;

a second headphone amplifier powered by both said external VDD supply and said voltage substantially equal in magnitude to the negative value of said external VDD supply, said second headphone amplifier having a second audio input driven by a second audio signal provided external to said integrated circuit, and a second audio output suitable for directly driving said stereo headphone; and

whereby a single ground reference may be used for both said headphone system and said stereo headphone such that substantially no DC bias voltage exists across said first audio input and said second audio input with reference to said stereo headphone.

14. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, wherein said first audio input is an audio in for a right stereo headphone and said second audio input is an audio in for a left stereo headphone.

15. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, wherein said first audio input is coupled to an inverting terminal of said first headphone amplifier and said second audio input is coupled to an inverting terminal of said second headphone amplifier.

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16. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 15, wherein a non-inverting terminal of said first headphone amplifier is coupled to a non-inverting terminal of said second headphone amplifier.

17. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 16, wherein said non-inverting terminal of said first headphone amplifier and said non-inverting terminal of said second headphone amplifier are coupled to ground.

18. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising:

- a first resistor coupled to said first audio input and an inverting terminal of said first headphone amplifier,
- a second resistor coupled to said first audio output and said inverting terminal of said first headphone amplifier,
- a third resistor coupled to said second audio input and an inverting terminal of said second headphone amplifier, and
- a fourth resistor coupled to said second audio output and said inverting terminal of said second headphone amplifier.

19. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising:

- a first capacitor having a first lead and a second lead, said first lead coupled to said charge pump and said second lead coupled to said charge pump, said first capacitor located off said integrated chip, and

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a second capacitor having a first lead and a second lead, said first lead coupled to said charge pump and said second lead couple to ground, said second capacitor located off said integrated chip.

20. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising a short circuit protection device.

21. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising a bias circuitry device.

22. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, wherein said first audio output is an audio out for a right stereo headphone and said second audio output is an audio out for a left stereo headphone.

23. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising a click / pop suppression device coupled to said first headphone amplifier and said second headphone amplifier.

24. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising a shutdown control device coupled to said charge pump.

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25. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 23, further comprising a shutdown control device coupled to said charge pump and said click / pop suppression device.

26. (Previously Presented) A direct drive charge pump enabled stereo headphone system as recited in Claim 13, further comprising:

a first capacitor having a first lead and a second lead, said first lead coupled to a non-inverting terminal of said first headphone amplifier and said second lead coupled to said first audio input, said first capacitor located off said integrated chip, and

a second capacitor having a first lead and a second lead, said first lead coupled to a non-inverting terminal of said second headphone amplifier and said second lead coupled to said second audio input, said second capacitor located off said integrated chip.